

WHAT IS CLAIMED IS:

1. A superconducting cable comprising a superconducting layer, wherein the superconducting layer has a portion whose critical current value is
5 differentiated from the critical current value of the other portion.

2. A superconducting cable according to claim 1, wherein the superconducting layer has a current limiting portion whose critical current value is smaller than that of the other portion.

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3. A superconducting cable according to claim 1, wherein the superconducting layer is at least one of a superconducting conductor layer and a shielding layer provided at the outer periphery of the superconducting conductor layer.

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4. A superconducting cable according to claim 2, wherein the superconducting layer is at least one of a superconducting conductor layer and a shielding layer provided at the outer periphery of the superconducting conductor layer.

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5. A superconducting cable line comprising:
a superconducting cable set forth in claim 1 according to claim 1 having a plurality of cable cores each including a superconducting layer; and

a splitter which houses separated portions of the plurality of cable cores such that the separated cable cores are sufficiently distanced from each other,

wherein the portions whose critical current values are differentiated from those of the normal portion (i.e., the other portion of the cable cores) are
5 housed in the splitter.

6. A superconducting cable line comprising:

a superconducting cable set forth in claim 2 having a plurality of cable cores each including a superconducting layer; and

10 a splitter which houses separated portions of the plurality of cable cores such that the separated cable cores are sufficiently distanced from each other,

wherein the portions whose critical current values are differentiated from those of the normal portion (i.e., the other portion of the cable cores) are housed in the splitter.

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7. A superconducting cable line comprising:

a superconducting cable set forth in claim 3 having a plurality of cable cores each including a superconducting layer; and

a splitter which houses separated portions of the plurality of cable cores such
20 that the separated cable cores are sufficiently distanced from each other,

wherein the portions whose critical current values are differentiated from those of the normal portion (i.e., the other portion of the cable cores) are housed in the splitter.

8. A superconducting cable line comprising:

a superconducting cable set forth in claim 4 having a plurality of cable cores each including a superconducting layer; and

5 a splitter which houses separated portions of the plurality of cable cores such that the separated cable cores are sufficiently distanced from each other,

wherein the portions whose critical current values are differentiated from those of the normal portion (i.e., the other portion of the cable cores) are housed in the splitter.

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9. A superconducting cable line according to claim 5, wherein a coolant for cooling the superconducting cable fills the splitter, and a regulating valve for regulating the pressure when the coolant vaporizes is provided for the splitter.

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10. A superconducting cable line according to claim 6, wherein a coolant for cooling the superconducting cable fills the splitter, and a regulating valve for regulating the pressure when the coolant vaporizes is provided for the splitter.

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11. A superconducting cable line according to claim 7, wherein a coolant for cooling the superconducting cable fills the splitter, and a regulating valve for regulating the pressure when the coolant vaporizes is provided for the splitter.

12. A superconducting cable line according to claim 8, wherein a coolant for cooling the superconducting cable fills the splitter, and a regulating valve for regulating the pressure when the coolant vaporizes is provided for the splitter.

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13. A superconducting cable line according to claim 5, wherein portions having a smaller critical current value are disposed in the splitter at positions distanced from the assembled portions of the cable cores: namely, at the end side of the split cable cores in the case of the splitter being a termination joint
10 box, and at a central position in the case of the splitter being an intermediate joint box.

14. A superconducting cable line according to claim 9, wherein portions having a smaller critical current value are disposed in the splitter at positions
15 distanced from the assembled portions of the cable cores: namely, at the end side of the split cable cores in the case of the splitter being a termination joint box, and at a central position in the case of the splitter being an intermediate joint box.

20 15. A superconducting cable line according to any one of claims 5, wherein holding fixtures for holding the cable cores in the splitter are movable in the splitter in accordance with the expansion and contraction of the cable cores and hold the cable cores in a state in which the cable cores are separated

from each other.

16. A superconducting cable line according to any one of claims 9,
wherein holding fixtures for holding the cable cores in the splitter are movable
5 in the splitter in accordance with the expansion and contraction of the cable
cores and hold the cable cores in a state in which the cable cores are separated
from each other.

17. A superconducting cable line according to any one of claims 13,
10 wherein holding fixtures for holding the cable cores in the splitter are movable
in the splitter in accordance with the expansion and contraction of the cable
cores and hold the cable cores in a state in which the cable cores are separated
from each other.